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RIVER BIRCH APHID

In the spring, the new leaves on river birch often become distorted and take on a corrugated appearance. This is caused by an infestation of the spiny witch-hazel gall aphids, *Hamamelistes spinosus*. The aphids also produce honeydew, which falls on things underneath the river birch tree. The leaves attacked by the aphid eventually turn brown and drop from the tree. Fortunately, they produce another flush of leaves and the tree suffers no real harm.

Aphid damage to river birch leaf. Note the aphids and white waxy material in the leaf folds. Photo by C. S. Gorsuch

Like several other aphids, the spiny witch-hazel gall aphid has a very interesting life cycle. As the name implies, part of the year is spent on witch-hazel and part on river birch.

Overwintering eggs are laid on witch-hazel in June and July. These eggs hatch the following spring and the new aphid nymphs crawl to the flower buds to feed. If no flower buds are present, these aphids die. Feeding on the flower buds induces the plant to form a spiny gall. A second generation of winged aphids develops inside the galls, but then leaves and moves to birch. These winged aphids give birth to scale-like females that settle and hibernate on birch until the following spring.

As the birch leaf buds open, the scale-like aphids move from the bark to the leaves and begin feeding. This causes the birch leaves to form the characteristic corrugated galls. The undersides of the corrugations are filled with aphids and white granular material.

Damage to witch-hazel caused by the same aphid. Photo Credit N.C. State Dept. of Entomology.

Winged aphids that will migrate back to witch-hazel or wingless aphids called accessory females develop inside these galls. The winged aphids migrate to witch-hazel and give birth to a generation of wingless males and females. These wingless aphids mate, and the females lay eggs on witch-hazel for overwintering. The accessory females that remained on the birch tree produce additional generations of winged aphids that migrate to witch-hazel later. These winged females then give birth to males and females that also lay eggs for overwintering.

Should controls be applied for this aphid? Usually, the birch trees will drop the infested leaves and produce fresh foliage. No harm appears to be done to the tree. High numbers of aphids may cause twigs and small branches to die in some situations. Young trees, less than 15 feet tall, can be sprayed without too much difficulty. Treatments should be applied at bud break in

early spring to prevent gall formation. This must be done every year unless the witch-hazels can be found and eliminated. Once the corrugated galls form, control will be very difficult with contact insecticides. Another option is to use a systemic insecticide applied to the soil beneath the tree.

The roots take up these materials and the insecticide is carried in the sap. Sucking insects, like aphids, are very susceptible to this type of treatment. Always read the label carefully before purchasing a pesticide being sure that it lists the host plant and the insect. Be sure to follow all label directions exactly.

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EIIS/TO-17 (New 08/2003).